Appln. No.: 09/775,676

Amendment Dated August 9, 2005 Reply to Office Action of April 11, 2005

<u>Amendments to the Claims:</u> This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A single-probe apparatus for testing a circuit chip, said single probe apparatus comprising:

a single-probe group having two or more probes, said two or more probes having a common contacting center within a probe target area, and each of said two or more probes being configured for independently conductively contacting within a guiding boundary a single test terminal of said circuit chip such that and allowing a test path resistance of said single test terminal isto be measured based solely between said probes of said single probe group without affecting said circuit chip; and

means for averaging a number of measured test path resistance values, each of the measured test path resistance values being measured between at least two of said two or more probes, wherein an average resistance value provided by the means for averaging is used in determining a voltage drop compensation for an operational signal configured to pass through the probe apparatus.

- 2. (Currently Amended) The probe apparatus of claim 1, further comprising an electronic circuit capable of recognizing <u>each of said test path resistances</u> and correspondingly <u>providing the compensating for a voltage drop compensation of an the operational signal passing through at least one of said probes of said single probe group.</u>
- 3. (Currently Amended) The probe apparatus of claim 2, wherein said single-probe group comprises three probes and said electronic circuit is capable of recognizing test path resistances including:
 - a first path resistance between a first one of said three probes and a second one of said three probes along said single test terminal;
 - a second path resistance between said first one of said three probes and a third one of said three probes along said single test terminal;

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c) a third path resistance between said second one of said three probes and said third one of said three probes along said single test terminal; and

wherein said electronic circuit is capable of compensating for said voltage drop individually and in correspondence to one, two or three optional signal paths related to said probes.

- 4. (Currently Amended) The probe apparatus of claim 2, wherein said single probe group comprises four probes and said electronic circuit is capable of recognizing said test path resistance according to 4-Wire Ohm's Measurement.
- 5. (Original) The probe apparatus of claim 1, wherein at least one of said two or more probes is a buckling beam.
- 6. (Currently Amended) The probe apparatus of claim 1, wherein said single probe group is bundled in a single perforation of a sheath being part of said probe apparatus.
- 7. (Original) The probe apparatus of claim 6, wherein said single perforation is a long hole.
- 8. (Original) The probe apparatus of claim 6, wherein said single perforation is a circular hole.
- 9. (Previously Presented) The probe apparatus of claim 1, wherein said two or more probes have probe tips essentially concentrically arranged in correspondence to a rotation axis of said single terminal and having a rotationally symmetric and non planar contact surface such that said two or more probes contact said single test terminal in a self centering fashion.
- 10. (Original) The probe apparatus of claim 9, wherein said probe tips are essentially spherical.
- 11. (Currently Amended) A method to-of compensate-compensating for a voltage drop of an operational signal passing through an operational signal path-having a constant resistance and a variable resistance related to a contact quality of a probe and a single terminal of said operational signal path, said method comprising the steps of:

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contacting said-a single terminal of an integrated circuit device with a single-probe group comprising two or more of said-probes;

determining a <u>plurality of path resistances</u> along respective pairs of said two or more probes of said <u>single-probe</u> group, said single terminal and respective interfaces between said probes and said single terminal;

deriving an operational signal path resistance based on said <u>plurality of path</u> resistances, the deriving step including (a) identifying a constant portion of each of the path resistances and a variable portion of each of the path resistances, and (b) comparing the variable portion of each of the path resistances with one another to derive the operational signal path resistance; and

compensating for said voltage drop in correspondence to said <u>derived</u> operational signal path resistance.

12. (Currently Amended) The method of claim 11, wherein said contacting <u>step</u> is provided by said <u>single</u>-probe group including a first, a second and a third of said probes, wherein said determining step includes determining a first, a second and a third path resistance corresponding to <u>conductive paths including</u> said first, said second and said third of said probes, and wherein said deriving includes deriving an absolute value of a first, a second and a third operational signal path resistance corresponding to variable portion of each of said first path resistance, said second path resistance and said third path resistance.

13. (Cancelled)

- 14. (Previously Presented) The probe apparatus of claim 1, wherein each of said two or more probes have a conductive core, an insulation layer, and a tip.
- 15. (Currently Amended) A single-probe apparatus for testing a circuit chip, said single probe apparatus comprising:

a single probe group having two or more probes, said two or more probes being configured to ÷

i) having a common contacting center within a probe target area, and

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ii) independently conductively contacting within a guiding boundary a single test terminal of said circuit chip to allow a test path resistance of said single test terminal to be measured based solely between said probes of said single probe group;

means for averaging the <u>test path</u> resistance between said at least two probes by dividing the determined <u>test path</u> resistance by the number of probes in the <u>single</u>-probe group; and

means for adjusting a level of a test signal provided to said circuit chip based on said averaged resistance.

16. (New) A method of compensating for voltage drop of a signal, the method comprising the steps of:

establishing conductive contact between (a) a single terminal of an integrated circuit device and (b) a plurality of probes of a probe apparatus;

determining a path resistance between the single terminal of the integrated circuit device and the probe apparatus;

dividing the path resistance by a number of the plurality of probes used to provide the conductive contact; and

compensating for a voltage drop of a signal configured to pass through the probe apparatus using the divided path resistance.

17. (New) The method of claim 16 wherein the step of establishing includes establishing conductive contact between the single terminal and two probes of the probe apparatus, and the step of dividing includes dividing the path resistance by 2.